

*Economical + DCV*

# LCR METER

Model : LCR-9172

*ISO-9001, CE, IEC1010*



## Features :

- \* Compact size, easy to carry.
- \* 6000 counts ADC resolution.
- \* Built-in DCV measurement function
- \* Test ranges :
  - L : 600.0 uH to 200.0 H.
  - C : 600.0 pF to 10.00 mF.
  - R : 60.0 to 20.00 M ohm.
  - DCV : 600.0 mV to 20.00 V.
- \* Series/Parallel modes are selectable.
- \* DCR mode 60.0 to 20.00 M ohm.
- \* Four test frequencies are available :  
100 Hz/120 Hz/1 KHz/10 KHz
- \* Ls/Lp/Cs/Cp with D/Q/θ /ESR Parameter.
- \* Data hold.
- \* Size : 151 x 78 x 43 mm.
- \* Power : DC 9V battery or DC 9V adapter i
- \* Optional SMD test clips, SMDC-21.
- \* Optional SMD tester, SMDA-22.
- \* Optional soft carrying case, CA-05A.

**Lutron**

**LUTRON ELECTRONIC**



***The Art of Measurement***

Economical + DCV

# LCR METER

Model : LCR-9172

## FEATURES

* 6000 counts ADC resolution.
* Dual power supply , Battery or AC/DC Adapter.
* High performance analog front end for impedance (Z) measurement.
* Support Z / DCR measurement for LCR mode.
* Four different test frequency are available : 100 Hz/120 Hz/1 KHz/10 KHz for L/C/R measurement.
* Built-in simple DMM front end circuit to support DCV mode.
* Test range : ( ex. F = 1 KHz ) L : 600.0 uH to 60.00 H C : 600.0 pF to 600.0 uF R : 60.00Ω to 20.00 MΩ
* Low battery voltage detector.
* Min. source resistance : 120Ω typical.
* 6 ratio resistor range used for LCR mode.
* Support buzzer sound driver with driving pattern & frequency selectable.

## GENERAL SPECIFICATIONS

Display	LCD size : 46.5 X 45.5 mm.
Test frequency	100 Hz/120 Hz/1 KHz/10 KHz
Mode	L/C/R L/C/R Function selector Frequency selector D/Q/θ selector SER/PAL selector DCV DCV
Dissipation factor	0.000 to 9999
Quality factor	0.000 to 9999
θ measurement	± 90°
Calibration	Open/Short calibration
Data Hold	Freeze the display reading
Power off	Auto shut off (10 min) saves battery life or manual off by push button
Operating temperature	0°C to 50°C
Operating humidity	Less than 85% R.H.
Power Supply	006P DC 9V battery * Alkaline or Heavy duty type DC 9V adapter input * AC/DC power adapter is optional. *Auto power off function will be disable.
Power consumption	DC 6 mA approximately (Backlight off )
Dimension	151 x 78 x 43mm
Weight	235 g * meter only
Standard Accessories Included	* Instruction manual..... 1 PC * Alligator clips..... 1 PC
Optional Accessories	* SMD tester, SMDA-22 * SMD test clip, SMDC-21 * AC to DC 9V adapter

## ELECTRICAL SPECIFICATIONS (23± 5 °C)

### Resistance ( DCR )

Range	Accuracy	Remark
60 Ω	± ( 1.5% + 5d )	
600 Ω	± ( 1.0% + 5d )	
6000Ω	± ( 1.0% + 5d )	
60 KΩ	± ( 1.0% + 5d )	
600 KΩ	± ( 1.0% + 5d )	
6000 kΩ	± ( 1.0% + 5d )	
20 MΩ	± ( 1.5% + 5d )	

### Resistance(Z) ( SER/PAL )

Range	Accuracy 100 Hz/120 Hz	Accuracy 1 KHz	Remark
60 Ω	± ( 1.5%+5d )	± ( 1.5%+5d )	
600 Ω	± ( 1.2%+5d )	± ( 1.2%+5d )	
6000Ω	± ( 1.2%+5d )	± ( 1.2%+5d )	
60 KΩ	± ( 1.2%+5d )	± ( 1.2%+5d )	
600 KΩ	± ( 1.2%+5d )	± ( 1.2%+5d )	
6000 kΩ	± ( 1.2%+5d )	± ( 1.2%+5d )	
20 MΩ	± ( 2.0%+5d )	± ( 2.0%+5d )	

Range	Accuracy 10 KHz	Remark
60 Ω	± ( 1.5%+5d )	After calibration
600 Ω	± ( 1.2%+5d )	
6000Ω	± ( 1.2%+5d )	
60 KΩ	± ( 1.2%+5d )	
600 KΩ	± ( 1.2%+5d )	
6000 kΩ	± ( 1.2%+5d )	
20 MΩ	± ( 3.0%+5d )	After calibration

Remark : \* All specifications are under in battery operation.  
\* Don't apply voltage larger than 30 V to input terminals.

## Capacitance ( SER/PAL ) : D ≤ 0.1

Range	Accuracy 100 Hz	Accuracy 120 Hz	Remark
600 pF	± ( 3.5%+5d )	± ( 3.5%+5d )	After calibration
6000 pF	± ( 2.5%+5d )	± ( 2.5%+5d )	After calibration
60 nF	± ( 2.0%+5d )	± ( 2.0%+5d )	
600 nF	± ( 2.0%+5d )	± ( 2.0%+5d )	
6000 nF	± ( 1.5%+5d )	± ( 1.5%+5d )	
60 uF	± ( 1.5%+5d )	± ( 1.5%+5d )	
600 uF	± ( 1.5%+5d )	± ( 1.5%+5d )	
6000 uF	± ( 2.5%+5d )	± ( 2.5%+5d )	After calibration
10 mF	± ( 3.5%+5d )	± ( 3.5%+5d )	After calibration

Range	Accuracy 1 KHz	Accuracy 10 KHz	Remark
600 pF	± ( 2.5%+5d )	± ( 2.0%+5d )	After calibration
6000 pF	± ( 2.0%+5d )	± ( 1.5%+5d )	After calibration
60 nF	± ( 2.0%+5d )	± ( 1.5%+5d )	
600 nF	± ( 1.5%+5d )	± ( 1.5%+5d )	
6000 nF	± ( 1.5%+5d )	± ( 1.5%+5d )	
60 uF	± ( 1.5%+5d )	± ( 2.5%+5d )	
600 uF	± ( 2.5%+5d )	-----	
6000 uF	-----	-----	
10 mF	-----	-----	

## Inductance ( SER/PAL ) : D ≤ 0.1

Range	Accuracy 100 Hz	Accuracy 120 Hz	Remark
600 uH	-----	-----	
6000 uH	-----	-----	
60 mH	± ( 2.0%+5d )	± ( 2.0% + 5d )	
600 mH	± ( 1.5%+5d )	± ( 1.5% + 5d )	
6000 mH	± ( 1.5%+5d )	± ( 1.5% + 5d )	
60 H	± ( 1.5%+5d )	± ( 1.5% + 5d )	After calibration
200 H	± ( 2.5%+5d )	± ( 2.5% + 5d )	After calibration

Range	Accuracy 1 KHz	Accuracy 10 KHz	Remark
600 uH	± ( 2.5%+5d )	± ( 2.5%+5d )	After calibration
6000 uH	± ( 2.0%+5d )	± ( 2.0%+5d )	
60 mH	± ( 1.5%+5d )	± ( 1.5%+5d )	
600 mH	± ( 1.5%+5d )	± ( 1.5%+5d )	
6000mH	± ( 1.5%+5d )	± ( 1.5%+5d )	
60 H	± ( 2.5%+5d )	-----	After calibration
200 H	-----	-----	

Remark :  
\* All specifications are under in battery operation.  
\* Discharge inductor before measurement.  
\* Don't apply voltage larger than 30 V to input terminals.  
\* If intend to obtain the accurate value, please test the component into the " Pin terminals " ( 3-6, Fig. 1 ) or tested via optional.  
SMD tester, SMDA-22 or SMD test clip, SMDC-21.

### DC Voltage

Range	Accuracy
0V~ 20V	± ( 0.5% +2d )

## SCALE RANGE CONFIGURATION

LCR mode			
Function mode	Frequency	Meas. Range	Min. resolution
Inductance (SER/PAL )	100/120Hz	60.00mH~200.0H	0.01mH
	1kHz	600.0uH~60.00H	0.1uH
	10kHz	600.0uH~6000mH	0.1uH
Capacitance (SER/PAL )	100/120Hz	600.0pF~10.00mF	1pF
	1kHz	600.0pF~600.0uF	0.1pF
	10kHz	600.0pF~60.00uF	0.1pF
Resistance (SER/PAL )	100/120Hz	60.00Ω ~20.00MΩ	0.01Ω
	1kHz	60.00Ω ~20.00MΩ	0.01Ω
	10kHz	60.00Ω ~20.00MΩ	0.01Ω
DC resistance	N/A	60.00Ω ~20.00MΩ	0.01Ω

DMM mode		
Function mode	Meas. Range	Min. resolution
DCV	600.0mV~20.00V	0.1mV

Remark :  
\* All specifications are under in battery operation.  
\* Don't apply voltage larger than 30 V to input terminals.  
\* Discharge capacitor before measurement.  
\* If intend to obtain the accurate value, please test the component into the " Pin terminals " ( 3-6, Fig. 1 ) or tested via optional.  
SMD tester, SMDA-22 or SMD test clip, SMDC-21.